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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,409	12/03/2003	Shuji Narimatsu	117967	4743
25944	7590	05/23/2005		
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			EXAMINER GUTIERREZ, KEVIN C	
			ART UNIT	PAPER NUMBER
			2851	

DATE MAILED: 05/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/725,409	NARIMATSU, SHUJI	
	Examiner	Art Unit	
	Kevin Gutierrez	2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on December 3, 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on December 3, 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date April 30, 2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because the quantity of words in the abstract exceeds 150. Correction is required. See MPEP § 608.01(b).
3. The disclosure is objected to because of the following informalities:
 - a. Page 5 line, 18-19, "When f_{1-2}/f_3 is greater than -1.5 and smaller the -08, i.e.," is unclear (see underlined text, use "than" instead of "the" as suggested by the examiner).

- b. Refer to the Fig. 2, OBJ Nos. 13 and 14 are not specified in the specifications.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamamoto (5,946,144).

Regarding claims 1 and 6, Yamamoto teaches "six lenses including a single lens having negative refracting power (col.2, lines 20-22) serving as a first lens (Fig.1, ref. L2), a single lens having positive refracting power (col.2, lines 20-22) serving as a second lens (Fig.1, ref. L3), a single lens having negative refracting power (col.2, lines 20-22) serving as a third lens (Fig.1, ref. L4), a compound lens having positive refracting power (col.2, lines 20-22), consisting of a first component lens (Fig.1, ref. L5) having negative refracting power (col.2, lines 20-22) and a second component lens (Fig.1, ref. L6) having positive refracting power (col.2, lines 20-22) and cemented to the first component lens (Fig.1, ref. L5), and serving as a fourth lens, and a single lens having positive refracting power (col.2, lines 20-22) serving as a fifth lens (Fig.1, ref. L7), arranged in that order from a side of a screen (Fig.1, enlargement side)

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toward a display device (col. 4, lines 40-41); wherein a part of the projection lens on the side of the display device display device (col. 4, lines 40-41) is substantially telecentric (col. 2, lines 11-13), and a surface, on the side of the display device display device (col. 4, lines 40-41), of the first lens (Fig.1, ref. L2), and a surface, on the side of the display device display device (col. 4, lines 40-41), of the second component lens (Fig.1, ref. L6) of the fourth lens (Fig.1, ref. L5 and L6) are aspherical (col. 1, lines 32-33)."

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2, 3, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto (5,946,144).

Regarding claims 2 and 7, Yamamoto teaches the claimed invention except for "wherein $0.3 < L_{23}/L_{2-4} < 0.5$, where L_{2-4} is the distance between an end, on the side of the screen (Fig.1, enlargement side), of the second lens (Fig.1, ref. L3) and an end, on the side of the display device (col. 4, lines 40-41), of the fourth lens (Fig.1, ref. L5 and L6), and L_{23} is the distance between an end, on the side of the display device

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(col. 4, lines 40-41), of the second lens (Fig.1, ref. L3) and an end, on the side of the screen (Fig.1, enlargement side), of the third lens (Fig.1, ref. L4).” It would have been obvious to one having ordinary skill in the art at the time of the invention was made to have distances of L_{23} and L_{2-4} to satisfy the condition $0.3 < L_{23}/L_{2-4} < 0.5$ (see col. 5, lines 2-6) since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claims 3 and 8, Yamamoto teaches the claimed invention except for “wherein the first (Fig.1, ref. L2), the second (Fig.1, ref. L3) and the third lens (Fig.1, ref. L4) meet a condition: $-1.5 < f_{1-2}/f_3 < -0.8$, where f_{1-2} is the synthetic focal length of the first (Fig.1, ref. L2) and the second lens (Fig.1, ref. L3), and f_3 is the focal length of the third lens (Fig.1, ref. L4).” It would have been obvious to one having ordinary skill in the art at the time of the invention was made to have an arrangement of a first, second, and third lens where the condition $-1.5 < f_{1-2}/f_3 < -0.8$ is satisfied (see col. 5, lines 14-17), since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

8. Claims 4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto (5,946,144) in view of Yasui et al (20020176058).

Yamamoto discloses a first, second and third lens that have refractive powers (see col. 1, lines 26-29). Yamamoto does not teach light rays, substantially parallel to the optical axis, travel to the first lens and emerge from the third lens.

However, having the “wherein the first, the second and the third lens have refractive powers such that light rays traveling from the side of the screen and falling on the first lens substantially parallel to an optical axis emerge from the third lens substantially parallel to the optical axis” is routine to the art as is evident to the teaching of Yasui et al (see paragraph 0069, lines 4-7). It would have been obvious to one skilled in the art at the time the invention was made to modify Yamamoto by having refractive powers of the first, second and third lens such that light rays, substantially parallel to the optical axis, travel to the first lens and emerge from the third lens.

The ordinary artisan would have been motivated to modify Yamamoto in a matter described above for at least the purpose to reduce chromatic aberrations.

9. Claims 5 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamamoto (5,946,144) in view of Endo et al (2004/0051964).

Yamamoto discloses the first component (Fig.1, ref. L5) of the fourth lens (Fig.1, ref. L5 and L6). Yamamoto does not teach a substantially flat surface of the first component of the fourth lens on the side of the screen.

However, having the “wherein a surface, on the side of the screen, of the first component lens of the fourth lens is substantially flat” is routine to the art as is evident to the teaching of Endo et al (see Figure 1, ref. G3). It would have been obvious to one skilled in the art at the time the invention was made to modify Yamamoto by having a lens with substantially flat surface of the first component of the fourth lens on the side of the screen.

The ordinary artisan would have been motivated to modify Yamamoto in a matter described above for at least the purpose to employ a larger radius of curvature to promote aberration corrections.

Conclusion

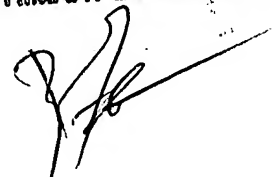
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Gutierrez whose telephone number is (571)-272-5922. The examiner can normally be reached on Monday-Friday: 7:30a - 4:00p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571)-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin Gutierrez
Examiner
Art Unit 2851

RODNEY FULLER
PRIMARY EXAMINER



May 17, 2005